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EXAMINER
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HOEY, BETSEY MORRISON

ART UNIT	PAPER NUMBER
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1724

DATE MAILED: 05/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/761,926

Applicant(s)

ZAWADA ET AL.

Examiner

Betsey M. Hoey

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-65 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 46-57 is/are allowed.
- 6) ☒ Claim(s) 1-36, 44, 45 and 58-65 is/are rejected.
- 7) ☒ Claim(s) 37-43 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

or

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 3-6, 8-13, 18, 20, 21, 23, 26, 27, 30-32, 34, 35 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Pub No. 2004/0217326 to Souter et al.

Souter et al. teach water treatment compositions which may be in tablet, granular or powder form, comprising a primary coagulant such as an inorganic metal salt, which may be those known to be antimicrobial such as copper chloride; a coagulant aid such as a compound containing a quaternary ammonium group; a microbiocidal disinfectant such as a silver salt, colloidal silver, calcium hypochlorite, or a quaternary ammonium compound; an oxidant; a silicate which improves the rate of tablet disintegration (and is thus a "disintegrating agent"); and an alkali agent which may be a carbonate or oxide.

Therefore, combinations of the elements of the compositions of Souter et al. include compositions recited in instant claims 1, 10, 11, 18, 30, 31. Souter et al. teach that the composition may comprise a source of acid and source of carbonate, which interact in a process of effervescence, and thus anticipates claims 26 and 35. The amounts of the components of the compositions of Souter et al. include those recited in instant claims 3, 4, 8, 9, 12, 13, 31, 32.

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3. Claim 36, 44 and 45 are rejected under 35 U.S.C. 102(e) as being anticipated by Souter et al. (see above). Souter et al. teach a method for treating water using a composition as described above. The composition allows the treated water to remain free of discoloration for extended periods, and thus the method for using this composition is suitable for sustained water treatment. The components of the composition may be present in the amounts recited in instant claims 44 and 45.

4. Claims 58-62 are rejected under 35 U.S.C. 102(e) as being anticipated by Souter et al. (see above). Souter et al. teach making a composition as described above. The composition may be used for nutrifying drinking water, and thus the composition is suitable for oral ingestion. The composition allows the treated water to remain free of discoloration for extended periods, and thus the composition is formulated for sustained water treatment. The composition comprises microbiocidal disinfectants and is thus effective against microbial contamination when mixed with water.

5. Claim 63 is rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,977,183 to Scepaniski. Scepaniski teaches solid antimicrobial compositions which may comprise a quaternary ammonium compound, an alkaline builder which may be an oxidant such as sodium or potassium carbonate or hydroxide, and a chelating agent which may be citric acid as described by Scepaniski in example 2A.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claims 2, 7, 19 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Souter et al. (see above). Souter et al. disclose the compositions described above. The claims differ from Souter et al. by reciting specific quaternary ammonium compounds (claims 2 and 19) and specific oxidizing agent (claims 7 and 22).

It is submitted that although the quaternary ammonium compounds and oxidizing agent recited in these claims are not specifically listed by Souter et al., they are included within the scope of quaternary ammonium compounds and oxidant of the compositions of Souter et al. It would have been obvious to one of ordinary skill in the art, at the time the present invention was made, to use a quaternary ammonium compound from the list recited in claims 2 and 19, as the microbiocidal disinfectant, because these are known disinfectants use for water treatment. It is further submitted that it would have been obvious to one of ordinary skill in the art, at the time the present invention was made, to use sodium percarbonate as the oxidant in the compositions of Souter et al., because Souter et al. requires an oxidant that works rapidly and effectively, and sodium percarbonate is known in the art as being a rapid and effective oxidizing agent for treating water.

8. Claims 1-6, 8-13, and 18- 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 59978A to Haas et al. in view of Souter et al. (see above). Haas et al. disclose compositions for the chemical treatment of water comprising a quaternary ammonium compound, a copper or silver salt, and an oxygen-releasing peroxide compound. A preferred peroxide compound is  $\text{KHSO}_5$ . The claims differ from Haas et al. by reciting that the composition is dry (claim 1), and in the form of a tablet (claim 18);

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and that the compounds of the composition are selected from a specific group and/or are present in specific amounts.

Souter et al. disclose the compositions described above. The compositions of Souter et al., like the compositions of Haas et al., are used to treat water and kill germs. Souter et al. disclose that the compositions can be in the form of tablets. One of ordinary skill in the art, at the time the present invention was made, would have been motivated to have made the compositions of Haas et al. as tablets, in view of Souter et al., because it is well-known that tablets are a more compact and lightweight means for transporting water treatment chemicals than liquid solutions. It is submitted that since Haas et al. do not limit their quaternary ammonium compound to any specific quaternary ammonium compound, the compounds of claims 2 and 19 are within the scope of Haas et al. It is also submitted that that since Haas et al. do not limit their oxygen-releasing peroxide compound to any specific oxygen-releasing compound, some of the compounds of claims 5, 6, 20 and 21 are within the scope of Haas et al. It is further submitted that it would have been obvious to one of ordinary skill in the art, at the time the present invention was made, to have made the composition of Haas et al. using compounds recited in instant claims 2, 5, 6, and 19-21, because such compounds are known in the art to be effective for killing germs or degrading oxidizable impurities, as is desired by Haas et al. It is further submitted that one of ordinary skill in the art would have been expected to have arrived at the specific amounts of each compound by routine experimentation. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the present invention was made, to have included the compounds of Haas et al. in the amounts recited in the instant claims, in order to provide an

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effective composition for killing germs and degrading oxidizable impurities, absent a sufficient showing of unexpected results.

9. Claims 1-25, 31-34, 64 and 65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scepanski (see above) in view of U.S. Patent No. 5,073,382 to Antelman. Scepanski teaches solid antimicrobial compositions, which may comprise a quaternary ammonium salt, an alkaline builder which may be an oxidant such as sodium or potassium carbonate or hydroxide, and a chelating agent which may be citric acid as described by Scepanski in example 2A. The quaternary ammonium salt of Scepanski may include a compound recited in instant claim 2. The compositions of Scepanski may be in the form of a tablet, and are useful for cleaning laundry.

The claims differ from Scepanski by reciting that the composition includes an antimicrobial metallic compound (claims 1, 64 and 65), specific concentrations of compounds (claims 3, 4, 8, 9, 12, 13, 31 and 32), sodium percarbonate (claims 7 and 22), and a silver compound (claims 10, 11, 23 and 31).

Antelman discloses bactericide compositions which, like the compositions of Scepanski, may be used as laundry detergents. The compositions of Antelman may be prepared using a silver phosphate complex. The compositions of Antelman are effective for killing bacteria. It would have been obvious to one of ordinary skill in the art, at the time the present invention was made, to have included the silver compound of Antelman in the compositions of Scepanski, in order to aid in killing bacteria. It is submitted that one of ordinary skill in the art would have been expected to have arrived at the specific amounts of each compound by routine experimentation. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the present invention was made, to

have included the compounds of Haas et al. in the amounts recited in the instant claims, in order to provide an effective composition for treating water, absent a sufficient showing of unexpected results. It is further submitted that although Scepanski does not specifically mention the use of sodium percarbonate, since Scepanski discloses the use of sodium carbonate and sodium hydroxide as possible choices for an alkaline builder, sodium percarbonate is within the scope of the alkaline builders of Scepanski and it would have been obvious to one of ordinary skill in the art to have used sodium percarbonate in the compositions of Scepanski, in order to provide an effective base, absent a sufficient showing of unexpected results.

10. Claims 17 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Souter et al. (see above) as applied to claim 1 above, and further in view of U.S. Patent No. 6,610,275 to Owades et al. Souter et al. disclose compositions for treating drinking water as described above. Souter et al. disclose the use of coagulant aids which may sequester heavy metal ions. The claims differ from Souter et al. by reciting that the composition includes citric acid.

Owades et al. , like Souter et al., disclose means for treating drinking water, wherein the treated water may be used as a refreshing drink. Owades et al. disclose a mixture for treating drinking water comprising quaternary ammonium anion exchange resins, and a chelating agent which may be citric acid.

It would have been obvious to one of ordinary skill in the art, at the time the present invention was made, to have included in the compositions of Souter et al., a chelating agent of citric acid, in view of Owades et al., in order to chelate heavy metal ions as desired by Souter et al.



11. Claims 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Souter et al. in view of Owades et al. (see above). Souter et al. disclose compositions for treating drinking water as described above. The claims differ from Souter et al. by reciting that the composition includes citric acid (claim 28).

Owades et al., like Souter et al., disclose means for treating drinking water, comprising a mixture for treating drinking water having quaternary ammonium anion exchange resins and a chelating agent such as citric acid.

It would have been obvious to one of ordinary skill in the art, at the time the present invention was made, to have included in the compositions of Souter et al.; a chelating agent of citric acid, in view of Owades et al., in order to chelate heavy metal ions as desired by Souter et al. It is submitted that the composition of Souter et al. in view of Owades et al. is capable of treating dental unit water.

12. Claims 37-43 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. Claims 46-57 are allowed.

14. The following is a statement of reasons for the indication of allowable subject matter:

Claims 37-43 would be allowed if rewritten in independent form, including the limitations of claim 36, because the prior art of record fails to teach, disclose, or fairly suggest a method for causing sustained antimicrobial activity in a water supply comprising providing the composition recited in claim 36 and forming a mixture of the composition and water in a dental unit reservoir as recited in claim 37, or forming a

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mixture of the composition and water and introducing the mixture to a dental unit reservoir as recited in claim 40, or forming a mixture of the composition and water and introducing the mixture to a patient having a dental treatment. It is submitted that other prior art methods for treating water in a dental unit reservoir with an antimicrobial composition do not suggest that the composition is a dry composition comprising a quaternary ammonium compound, oxidizing agent, and antimicrobial metallic compound.

Claims 46-57 are allowed because the prior art of record fails to teach, disclose, or fairly suggest a method for causing sustained antimicrobial activity in a dental unit water supply comprising providing a tablet comprising a quaternary ammonium compound, oxidizing agent, silver compound, and citric acid, and forming a mixture of water and a portion of the tablet.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Betsey Hoey whose telephone number is **(571) 272-1158**. The examiner can normally be reached on Mondays, Tuesdays, and Thursdays. The examiner's supervisor, Mr. Duane Smith, may be reached at (571) 272-1166. Any inquiry of general nature may be directed to the Group receptionist at (571) 272-0987. The centralized fax number for the Group is (703) 872-9306. The examiner Rightfax number is (571) 273-1158.



**BETSEY MORRISON HOEY**  
**PRIMARY EXAMINER**

April 28, 2005